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| 10/681,205 | 10/09/2003 | Syozo Kobayashi | 243895US0DIV | 5872 |

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| EXAMINER | |
|---|---|
| TUCKER, ZACHARY C | |
| **ART UNIT** | **PAPER NUMBER** |
| 1624 | |

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/681,205 | KOBAYASHI ET AL. | |
| | Examiner | Art Unit | |
| | Zachary C. Tucker | 1624 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *10 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-17 and 23-26* is/are pending in the application.

4a) Of the above claim(s) *3,5-8 and 11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,9,10,12-17 and 23-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/762,888.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9Oct03,13Jan04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

## NOTE CHANGE OF EXAMINER

This application is now being prosecuted by Zachary C. Tucker, the new examiner to whom it is now assigned.

### *Election/Restrictions*

Applicant's election with traverse of Group V (claims 1-17 and 23-26 in part, where $Q^3$ = others) in the reply filed on 10 December 2004, responsive to the requirement for restriction mailed 1 October 2004, is acknowledged. The traversal is on the ground that since all compounds according to claim 1 include a nitrogen-containing heterocyclic ring, they constitute one invention. This is not found persuasive because a showing of separate classification for each Group I-V has been provided. Separate classification is evidence of distinctness, and evidence of the requirement that separate and noncoextensive searches are required for each Group I-V.

The argument that since all of the claimed compounds are heterocyclic nitrogen compounds, they are one in the same invention is not persuasive also for the reason that just because there is one general similarity between the groups set forth in a Requirement for Restriction does prove that the Groups are not patentably distinct. Certainly, applicants would not acquiesce to a rejection of the piperazinyl "$Q^3$" group over a disclosure of 2-oxo-3-amino pyrrolidinyl "$Q^3$."

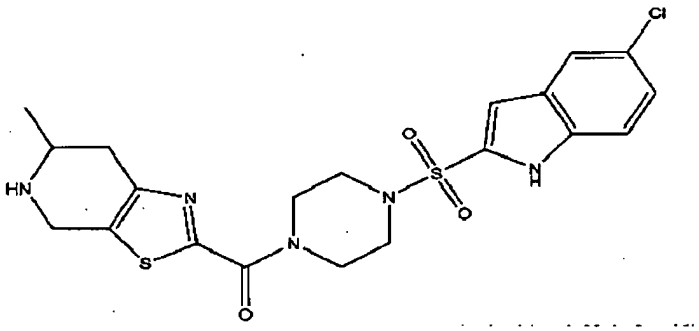
The requirement is still deemed proper and is therefore made FINAL.

Claims 1-17 and 23-26 in part (where "$Q^3$" is not from Group V) are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected

invention. Applicant timely traversed the restriction (election) requirement in the reply filed on 10 December 2004.

Applicants' reply to the requirement for an election of a single disclosed species for examination, wherein election of the species of Example B-54 on page 902 of the specification was made, is noted.

The elected species has the structure depicted below –




Claims 3, 5-8 and 11, which do not read on this species, are withdrawn from consideration because art was found (see MPEP 803.02.)

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 4, 9, 10, 12-17 and 23-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the phrase "may have a substituent" or some variation thereof appears fifty times. No substituents are specified in conjunction with any of these recitations. The instant specification provides some exemplary substituents

contemplated, but does not explicitly *exclude* any substituents. Thus, claim 1 and any claim that depends therefrom is indefinite in scope. "May have a substituent" also appears three times in the definition of "$A^3$" in claim 2.

Of note in this regard also is the definition of "$R^{13}$" in claim 1, which begins at the bottom of page 11 of the Preliminary Amendment filed 5 March 2004, and continues to the top of page 12. The phrase "...an aminoalkyl group which may have, at the amino moiety itself, a substituent (protecting group))," which appears in the definition of "$R^{13}$," is further indefinite because it is unclear whether a "substituent" generally, or the more specific "protecting group" is being specified. If, in this instance, "substituent" were deleted, and "protecting group" were substituted therefor, without parentheses, this ground of rejection would be overcome.

Page 18 of the specification, at lines 21-26, continuing to page 19, lines 1-13 describes examples of what is contemplated by the "may have a substituent" language. The claims would not be indefinite for the reason given in this rejection if "substituent" were limited to those listed at pages 18 and 19. Since the listed substituents are provided as only examples, the scope of the claims is not limited to those listed. That some of the subject matter in a claim is easily identified does not signify that the *entire* claim is definite in scope. Claims 1,2,4,9,10,12-17 and 23-26 have been examined on the merits as though "a substituent," when recited as a claim limitation, is limited to only those named at pages 18 and 19. The claims in their present form, are in fact <u>not limited</u> to this interpretation, however.

Claims 12-14 are, in addition to being indefinite because they depend from an indefinite base claim (claim 1), further indefinite because it is unclear from the language of the claim if a composition or compound is being described. If claims 12-14 are compositions comprising the compound of formula (I), then those claims are duplicates of claim 17, which is a proper pharmaceutical composition claim (although claim 17 is also indefinite because it depends from claim 1). The intended use limitations recited in claims 12-14 do not result in any material difference in the physical make up of the compositions according to those claims (if those claims are drawn to compositions). If claims 12-14 are drawn to compounds according to formula (I), then claims 12-14 are duplicates of claims from which they depend, because the intended uses recited therein do not require the compounds specified to be different from compounds specified, for example, in claim 1 (if claims 12-14 are drawn to compounds).
Compounds according to claim 1, are useful for medicaments, activated coagulation an inhibition and coagulation suppression.

Claims 15 and 16 are, in addition to being indefinite because they depend from an indefinite base claim (claim 1), are further indefinite because it is unclear from the language of the claim if a composition, or method of treatment or a compound is being described. If claims 15 and 16 are drawn to a composition, then they duplicate claim 17, if claims 15 and 16 are drawn to compounds, then they duplicate the claims from which they depend, if claims 15 and 16 are drawn to a method of treatment, then they duplicate claims 25 and 26.

Claims 12-16 have not been further examined on the merits in this Office action, because to do so would be overly speculative on the part of the examiner. It is believed, however, that the spirit of claims 12-16 has been addressed in this Office action.

Claim 23 is found to be indefinite, in addition to being indefinite for depending from an indefinite base claim, for the reason that "diseases caused by an activated coagulation factor X" is unclear. Applicants will be able to appreciate that since activation of coagulation factor X is a normal part of animal physiology, then arguably, there are no diseases caused by it. Disease processes can result from *inappropriate* or *over-activation* of coagulation factors, but not merely from activation of coagulation factors. Activation of coagulation factors is sometimes caused by an underlying disease process, but is not the cause of diseases.

In fact, the *lack* of coagulation factor activation, or lack of certain elements of the coagulation cascade causes diseases in its own right. The language of claim 23 implies that the presence of a normal constitutive element of animal physiology is what causes diseases.

Additionally, claim 23 specifies the step of administering the therapeutic agent, but to whom or to what the agent is administered is not defined.

Thus, claim 23 is indefinite in scope. Claim 23 has not been further examined in this Office action, because to do so would be overly speculative on the part of the examiner.

Claims 24-26 are indefinite, in addition to being indefinite for depending from an indefinite base claim, for the recitation of the method step of administering the therapeutic agent, without defining the recipient (to whom or to what the agent is administered) of the therapeutic agent. Claims 24-26 have been examined on the merits as though "to a subject" appeared at the end of those claims.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 4, 9, 10, 17 and 24-26 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the sulfonyl derivatives represented by the formula (I), where "$Q^3$" is from Group V in the Restriction Requirement mailed 1 October 2004, and salts thereof, does not reasonably provide enablement for solvates of those compounds, and therefore, compositions comprising the solvates, and methods of treating diseases with the solvates. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

In making the determination of whether certain embodiments of a claimed invention are enabled by the disclosure, the Office relies on the following factors:

(A) The breadth of the claims;
(B) The nature of the invention;
(C) The state of the prior art;
(D) The level of one of ordinary skill;
(E) The level of predictability in the art;
(F) The amount of direction provided by the inventor;
(G) The existence of working examples; and

(H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.
*In re Wands,* 858 F.2d 731,737 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)

(A) Insofar as the solvate embodiment of claims 1, 2, 4, 9, 10, 17 and 23-26 is concerned, those claims read on solvates of compounds according to formula (I), a pharmaceutical composition (claim 17) comprising solvates of compounds according to formula (I), and methods according to claims 23-26 wherein a solvate of a compound according to formula (I) is employed as the therapeutic agent. The scope of the solvates recited in the claims includes solvates of a compound according to formula (I), with *any* solvent. The definition of a solvate, taken from the Vippagunta et al reference, cited in section (C), (D), (E) below, is a "crystalline solid adduct[s] containing solvent molecules within the crystal structure, in either stoichiometric or nonstoichiometric proportions, giving rise to unique differences in the physical and pharmaceutical properties of the drug."

(B) The nature of the invention is that of a chemical compound, a pharmaceutical composition or a medical treatment method.

(C), (D), (E) Solvates, at the time the invention was made, were known, but not to such an extent that the preparation thereof was routine or simple. The following references address the state of the art with respect to crystalline forms of organic compounds, formation of solvates of organic compounds, and the predictability thereof.

Vippagunta et al, "Crystalline Solids" Advanced Drug Delivery Reviews, vol. 48, pages 3-26 (2001).

and

Gavezzotti, "Are Crystal Structures Predictable?" Accounts of Chemical Research, vol. 27, pages 309-314 (1994).

First, it is evident from both of the references that formation of specific crystalline forms, and more particularly, solvates, is highly unpredictable. See Gavezzotti, page 312, point #8, and Vippagunta et al, page 11, "Prediction of Polymorphs" and page 18 "Prediction of the formation of hydrates and solvates."

Because the formation of solvates is unpredictable, even the relatively high level of skill possessed by one of ordinary skill in the art is not enough to render preparation of solvates routine. Each solvate of each compound must be experimentally prepared (since the conditions necessary for the formation cannot be predicted), wherein all of the factors relevant to each individual compound's ability to crystallize and form solvates are studied. These factors are identified in points #1-7 of the Gavezzotti reference. The preparation of each single claimed solvate represents a significant undertaking in the areas of preparative organic chemistry, physical chemistry, and crystallographic measurements.

It is unknown that the full scope of solvates of compounds of formula (I) is even possible (see Gavezzotti, page 309, point #1).

(F) Aside from a mention that the invention includes solvates, preferably hydrates and ethanolates, no guidance relevant to preparation of solvates is provided in the disclosure.

(G) No working examples, out of the hundreds provided, demonstrate preparation of a solvate. In fact, compounds of the invention are crystallized from a variety of solvents throughout the working examples, yet not solvate, or even hydrate, is identified.

(H) Each compound of formula (I), of which there are thousands, as a solvate with every solvent within the scope of "solvate" generally, of which there are also thousands, represents the efforts of many over a period of years. Those efforts are potentially inconclusive. For one of ordinary skill in the art to conduct the type of research outlined in Gavezzotti and in Vippagunta et al for preparation of every one of the claimed solvates would be undue. Applicants' right to exclude others from making solvates of compounds according to formula (I) is unwarranted in light of the lack of any direction as to how one of ordinary skill would do so.

Claims 25 and 16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for treating thrombosis, or conditions specifically associated with thrombosis, named in claim 26, does not reasonably provide enablement for embolism generally, or types of embolic conditions which are not necessarily exclusively caused by thromboembolism. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

In making the determination of whether certain embodiments of a claimed invention are enabled by the disclosure, the Office relies on the following factors:

(A) The breadth of the claims;
(B) The nature of the invention;
(C) The state of the prior art;
(D) The level of one of ordinary skill;
(E) The level of predictability in the art;
(F) The amount of direction provided by the inventor;
(G) The existence of working examples; and

(H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.
*In re Wands,* 858 F.2d 731,737 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)

(A) Claims 25 and 26 read on many conditions not necessarily caused by thrombus formation. Recitation of "embolism" in claim 25 reads on any type of blood vessel blockage. Emboli are caused by thrombi, gas bubbles, pieces of tumors, fat, bone marrow or amniotic fluid (in females during childbirth), to name a few.

As evidence of the manifold causes of emboli which are not limited to only the formation of thrombi, the examiner directs applicants' attention to the following two references:

> Harrison's Principles of Internal Medicine, 13th ed. edited by Isselbacher et al, McGraw-Hill, Inc. © 1994, pages 1214-1220, 2249-2251.
>
> and
>
> The Merck Manual, 16th ed., edited by Bondy et al, Merck & Co., Inc. © 1992, pages 1183 and 1214.

The Merck Manual briefly describes "Air Embolism" at page 1183 and "Metastatic Tumor Emboli" at page 1214. These are not caused by thrombosis.

In Harrison's Principles of Internal Medicine, Pulmonary Thromboembolism is described on pages 1214-1220. Nonthrombotic causes of pulmonary embolism are described at page 1220. The most common of these is a fat embolism, which can occur after bone trauma or fracture. Amniotic fluid embolism and vasculitis may cause pulmonary embolism as well.

At pages 2249-2250 of Harrison's Principles of Internal Medicine, cerebral embolism caused by septic emboli from endocarditis vegetations is described.

Applicants will be able to appreciate, then, that the scope of claims 25 and 26

extends beyond embolisms caused by coagulatory phenomena.

(B) The nature of the invention in claims 25 and 26 is that of a medical treatment.

(C) The state of the art with respect to treatment of thromboembolism is anticoagulation or thrombolytic agents (Harrison's pages 2219 and 2251, in treatment of pulmonary or cerebral thromboembolism).

(D) Because claims 25 and 26 are medical treatments, the level of ordinary skill with respect to those claims is that of a physician specializing in treatment of such conditions.

(E) With respect to the treatment of thromboembolism, the level of predictability wherein an antithrombotic agent is administered is relatively high. That is, such a method is medically plausible. One of ordinary skill would expect some success. Insofar as treatment of a **non**thrombotic embolus by administering to a patient afflicted therewith a compound which is an anticoagulant, one can predict that such a method will not work.

(F) The inventor has provided no direction relevant to the practice of the methods of claims 25 and 26, but instead has limited the scope of what is enabled to that which was already known to those of ordinary skill in the art at the time the invention was made. Physicians of ordinary skill, at the time the invention was made, knew how to inhibit coagulation, treat thrombosis or treat those conditions recited in claim 26 caused by thromboembolisms, with a compound that acts as an anticoagulant.

(G) Pages 1024-1034 of the specification report biological data for the inhibition of $FX_a$ activity, by many compounds according to the examples.

(H) No amount of experimentation would enable treatment of nonthrombotic emboli with a compound of the invention, because a compound that inhibits factor $X_a$ will only affect blood coagulation, and would not result in the treatment for an air embolism, fat embolism, amniotic fluid embolism, septic embolism, or metastatic tumor embolism.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

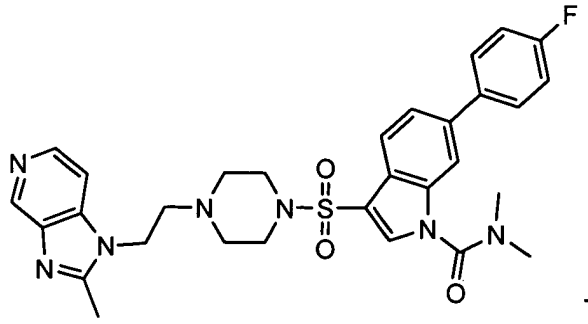
Claims 1, 2, 4, 9, 10 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,660,731 (Klimkowski et al). Klimkowski et al is prior art as of the filing date of provisional application 60/113,595, on which it is based. That filing date is 24 December 1998. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Example 1-13 of Klimkowski et al (col. 17) are compounds according to claims 1, 2, 4, 9 and 10 wherein "$Q^A$" is an unsaturated dicyclic fused ring group (2-naphthyl – claim 2 permits this when $R^{15}$ and $R^{17}$ are coupled together), with a substituent (halogen), "$Q^3$" is piperazinylene, "$T^1$" is carbonyl, "$Q^2$" is a single bond, "$Q^1$" is piperidin-4-yl.

Claim 17 is anticipated by Klimkowski et al by virtue of the fact that pharmaceutical formulation examples are disclosed in columns 9-11 of the patent.

Claims 1, 2, 4, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,654,305 (Sheppard et al).

Example 7 of Sheppard et al reports the synthesis of 6-(4-fluorophenyl)-3-[{4-[(2-(1H-2-methylimidazo[4,5-c]pyrid-1-yl)ethyl]piperazine-1-yl}sulfonyl]indole-1-carboxylic acid dimethyl amide. The compound has this structure:



The compound of Sheppard et al's Example 7 is embraced by claims 1, 2, 9 and 10 where "$Q^{A}$" is indolyl, substituted with a dimethylaminocarbonyl group and a *p*-fluorophenyl group, "$Q^{3}$" is piperazinylene, "$Q^{2}$" is a linear $C_1$ alkyl, "$T^{1}$" is a group –CH($R^{13}$)- where $R^{13}$ is a hydrogen atom and "$Q^{1}$" is an imidazo[4,5-c]pyrid-1-yl ring system, substituted with one methyl group.

Claim 4 is included in this rejection because it modifies an optional element of claim 2. The indole ring system specified in claim 2 (and disclosed by Sheppard et al in Example 7) is not substituted with an "$R^{18}$."

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,660,739 (Klimkowski et al).

Klimkowski et al is applied against claims 24-26 as set forth above in the rejection of claims 1, 2, 4, 9, 10 and 17 under 35 U.S.C. 102(e).

At the time the invention was made, the method of claims 24-26 would have been obvious to one of ordinary skill in the art given the teachings of the Klimkowski et al patent.

Klimkowski et al, although the actual practice of a method of treating a disease is not reported therein, expressly suggests employing the compounds of that patent for treating a variety of disorders, including thrombosis, pulmonary embolism, arterial thrombosis and myocardial infarction (col. 7, lines 55-60)

Thus, it would have been *prima facie* obvious for one of ordinary skill in the art to do so, the motivation being to ameliorate the damaging effects of those conditions.

Claims 17 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,654,305 (Sheppard et al).

Sheppard et al is applied against claims 17 and 23-26 as set forth above in the rejection of claims 1, 2, 4, 9 and 10 under 35 U.S.C. 102(b).

At the time the invention was made, the composition of claim 17 and methods of according to claims 23-26 would have been obvious to one of ordinary skill in the art given the teaching of Sheppard et al.

Pharmaceutical compositions comprising the compounds disclosed in the Sheppard et al patent are not actually reported as having been prepared, but Sheppard et al expressly suggests doing so in columns 7-10, where extensive teachings as to which kinds of pharmaceutical compositions can be made appears.

Sheppard et al also teaches that the compounds disclosed in that patent are advantageous for the treatment of thrombosis (column 1, line 42; column 10, lines 20-39), although the practice of the treatment of a disease is not actually reported in the patent. Since the compounds disclosed in the Sheppard et al patent are antagonists of platelet-activating factor (PAF), one of ordinary skill would appreciate that coagulation would be inhibited by the compounds, when administered to a subject. Thus a method coagulation inhibition or treatment of thrombosis by administering a compound from Sheppard et al to a subject is obvious in light of the teachings found in that patent.

The motivation to treat thrombosis by administering a compound as disclosed in Sheppard et al to a subject would have been to ameliorate the damaging effects of thrombosis, such as thromboembolism or deep vein thrombosis.

***Claim Objections***

Applicant is advised that should claims 1, 17 and 23-26 be found allowable, claims 12-16 will be objected to under 37 CFR 1.75 as being a substantial duplicates thereof. This is explained *supra* in the section headed "Claim Rejections - 35 USC § 112."

When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claims 24-26 make use of awkward language in the recitation of the claimed method of treatment. It is believed that this resulted from the translation from Japanese into English. Although it is not the basis of any rejection, the examiner suggests redrafting those claims to be more in congruence with commonly accepted method-of-treatment language in standard English (see below).

***Comments***

The objections to claims 24-26, and the rejections under 35 U.S.C. 112, first and second paragraphs of claims 24-26 would be overcome by deleting "or a solvate thereof" from claim 1, and if those claims were re-written as follows:

24. A method of coagulation inhibition, which comprises administering an effective amount of a sulfonyl derivative according to claim 1 to a subject.

25. A method of treating thrombosis, which comprises administering an effective amount of a sulfonyl derivative or salt thereof, according to claim 1, to a subject.

26. A method of treating a thromboembolic condition selected from the group consisting of cerebral infarction, cerebral embolism, myocardial infarction, pulmonary infarction, pulmonary embolism, Buerger's disease, deep vein thrombosis, disseminated intravascular coagulation syndrome, thrombus formation after valve replacement, reocclusion after revascularization, formation of thrombus upon extracorporeal circulation, or coagulation upon blood collection, which comprises administering a sulfonyl derivative or salt thereof, according to claim 1, to a subject.

### *Cited of Interest*

Cited of interest but not relied upon in any claim rejections is JP 1 – 132579 (Komoto et al), which discloses some compounds similar to the species elected for examination. Komoto et al's compounds lack the sulfonyl group bonded to the 2-position of the indole ring (see the first page of the document), and instead are bonded via a carbonyl group.

### Conclusion

Any inquiry concerning this communication should be directed to Zachary Tucker whose telephone number is (571) 272-0677. The examiner can normally be reached Tuesday-Thursday from 6:15am to 2:45pm, Monday from 6:15am to 1:45pm and Friday from 6:15am to 3:45pm (EST). If Attempts to reach the examiner are unsuccessful, the examiner's supervisor, Mukund Shah, can be reached at (571) 272-0674.

If, after a 24-hour period, Dr. Shah is unreachable, contact the examiner's acting supervisor, James O. Wilson, at (571) 272-0661.

The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

zt

JAMES O. WILSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600